



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/662,020

09/11/2003

Gregory Shirin

15437-0578

8580

45657

7590

07/31/2006

HICKMAN PALERMO TRUONG & BECKER, LLP
AND SUN MICROSYSTEMS, INC.
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110-1089

EXAMINER

MYINT, DENNIS Y

ART UNIT

PAPER NUMBER

2162

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/662,020	SHIRIN ET AL.	
	Examiner	Art Unit	
	Dennis Myint	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication; even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-14,16-27 and 29-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-14,16-27 and 29-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Applicant's Amendment, filed on 13 June 2006.
2. Claims 1, 3-14, 16-27, and 29-39 are pending in this application. Claims 1, 4, 14, 17, 27 and 30 are independent claims. In the Amendment filed on 13 June 2006, claims 1, 3-4, 8, 14, 16-17, 21, 27, 29-30, and 24 were amended. Claims 2, 15, and 28 have been cancelled. This office action is made final.

Response to Arguments

3. The applicant's arguments filed on 13 June 2006 have been fully considered but are moot in view of the new ground(s) of rejection.

Based on the amendments, Applicant argued that *the approach of Aziz does not involve the concept of a grid facilitation agent operating on a grid node* (Applicant's argument, Page-17); *Aziz does not disclose, teach, or suggest anything analogous to a grid facilitation agent* (Applicant's argument, Page-18); and Aziz fails to teaches the elements of claim 1, that is, *deploying a grid participation module to the grid facilitation agent operating on the grid node; and instructing the grid participation agent to run the grid participation module on the grid node to enable the grid node to participate as part of the resource grid* (Applicant's argument, Page-18).

Taking these arguments as a whole into consideration, new ground(s) of rejections are introduced citing Clarke Jr. et al. (U.S. Patent Application Publication Number 2004/0221038).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 1, 3-14, 16-27, and 29-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Aziz et al. (hereinafter "Aziz") (U.S. Patent Application Publication

Art Unit: 2162

Number 2003/0126265) in view of Clarke Jr. et al. (hereinafter "Clarke") (U.S. Patent Application Publication Number 2004/0221038).

As per claim 1, Aziz et al. is directed to a method and teaches the limitations:

"determining, by a grid establishment component, from a plurality of nodes a set of grid nodes to include in a resource grid, wherein each grid node provides zero or more resources" (Figure 2: *CONTROL PLANE 206* and Paragraph 0060, Paragraph 0058, i.e., *a large number of computing elements CPU1, CPU2.....* and Figure 2: *CPU1, CPU2, and local computing grid 208* and Paragraph 0058, i.e., *The local computing grid 208 is composed of a large number of computing elements*, Paragraph 0075, i.e., *A particular computing element may perform different roles as it is brought into and out of various VSFs*); and

"establishing, by the grid establishment component, the resource grid" (Paragraphs 0067, 0065, 0066, and 000055, i.e., *create a variety of server farm configurations.*), wherein

"establishing comprises:

configuring each grid node to enable that grid node to participate as part of the resource grid" (Paragraph 000055 and 0065); and

"establishing one or more grid masters to manage access to the resources provided by the grid nodes, such that the resource grid formed by the grid nodes behaves as a single pool of resources accessible through the one or more grid masters" (Paragraph 0075, i.e., *web load*

balancer, Figure 3: *LB/FIREWALL 302*, and Paragraph 0083, Paragraph 0085, Paragraph 0062, and Figure 3).

Aziz does not explicitly teach the limitations: "wherein each grid node has a facilitating agent operating thereon" and "wherein configuring a grid node to enable that node to participate as part of the resource grid comprises: deploying a grid participation module to the grid facilitation agent operating on the grid node; and instructing the grid participation agent to run the grid participation module on the grid node to enable the grid node to participate as part of the resource grid".

Clarke teaches the limitations:

"wherein each grid node has a facilitating agent operating thereon (Paragraph 0049, i.e., *requiring an installation of an agent*)" and

"wherein configuring a grid node to enable that node to participate as part of the resource grid comprises: deploying a grid participation module to the grid facilitation agent operating on the grid node; and instructing the grid participation agent to run the grid participation module on the grid node to enable the grid node to participate as part of the resource grid" (Paragraph 0049, i.e., *monitoring tools are deployed on potential grid resources to monitor application-level and server-level usage information such as: maximum, and minimum utilization, patterns of application demand, amount of available and required disk, memory, network bandwidth, etc. and they may be invasive, e.g., requiring installation of an agent on an IT resource. In one embodiment, the monitoring tools are used to post-process log files*).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the method of Aziz with the feature of installing facilitation module/agent on each of node of a resource grid, as taught by Clarke, so that, in the resultant method, each grid node would have a facilitating agent operating on it. One would have been motivated to do so in order to *configure elements of a distributed computing environment that takes into account broader ROI to determine what actions to take.*

As per claim 3, Aziz teaches the limitations:

"determining which of the plurality of nodes has a grid facilitation agent operating thereon" (Paragraphs 0061-0063 and Paragraphs 0071-0072.) Note that, in the method and system of Aziz, control plane (grid establishment component) determines which nodes would be in the grid by rebooting nodes and selecting a specific software (grid facilitation agent with grid participation module) to run on those nodes during the reboot process (Paragraph 0071-0072). Thus the method and system of Aziz et al preempts the step of determining which of the plurality of nodes has a grid facilitation agent operating thereon.; and

"selecting those nodes as the grid nodes" (Paragraph 0061-0062 and 0071-0072).

Referring to claim 4, Aziz in view of Clarke teaches the limitations:

“determining by a grid establishment component, from a plurality of nodes, a set of grid nodes to include in a resource, wherein each grid node provides zero or more resources” (Aziz, Paragraphs 0061-0063 and Paragraphs 0071-0072. Also see the action on claim 3.);

“establishing by the grid establishment component, the resource grid, wherein establishing comprises” (Aziz, Paragraph 0061-0062 and 0071-0072)

“configuring each grid node to enable that grid node to participate as part of the resource grid” (Clarke Paragraph 0049 and Aziz, Paragraphs 0061-0062 and Paragraph 0071-0072) “wherein configuring a grid node to enable that grid node to participate as part of the resource grid comprises:

causing the grid node to execute a grid facilitation agent thereon” (Aziz, Paragraphs 0061-0062 and Paragraphs 0071-0072);

“deploying a grid participation module to the grid facilitation agent executing on the grid node” (Aziz, Paragraphs 0061-0062 and Paragraphs 0071-0072); and

“instructing the grid facilitation agent to run the grid participation module on the grid node to enable the grid node to participate as part of the resource grid” (Aziz, Paragraphs 0061-0062 and Paragraphs 0071-0072); and

“establishing one more grid masters to manage access to the resources provided by the grid nodes, such that the resource grid formed by the grid nodes behave as a single pool of resources accessible through the one or more grid masters” (Aziz, Paragraph 0075, i.e., *web load balancer*, Figure 3: *LB/FIREWALL 302*, and Paragraph 0083, Paragraph 0085, Paragraph 0062, and Figure 3).

As per claim 5, Aziz teaches the limitations:

“causing the grid node to reboot using an operating system image obtained from a component separate from the grid node, wherein the operating system image comprises the grid facilitation agent” (Paragraph 0071, i.e., *the computing element is powered down or rebooted* ” and *“a bootable image of the operating syste”*).

As per claim 6, Aziz teaches the limitations:

“instructing the grid node, via a privileged port of the grid node” (Paragraph 0065, i.e., *Devices can only be configured through such control ports or interfaces*), “to reboot using an operating system image obtained from a component separate from the grid node” (Paragraph 0065 , i.e., *When a computing element is powered back up, a different portion of storage zone on the SA*”), “wherein the operating system image comprises the grid facilitation agent” (Paragraphs 0071 and 0065).

As per claim 7, Aziz teaches the limitations:

“determining to which of the plurality of nodes the grid establishment component has access to a privileged port” (Paragraph 0065, i.e., *control ports*); and “selecting those nodes as the grid nodes” (Paragraph 0065).

As per claim 8, Aziz in view of Clarke teaches the limitations:

“deploying a grid facilitation agent to an operating system running on the grid

Art Unit: 2162

node" (Aziz, Paragraphs 0061-0062 and Paragraphs 0071-0072k and Clarke Paragraph 0049);

"instructing the operating system to run the grid facilitation agent on the grid node" (Aziz, Paragraphs 0061-0062 and Paragraphs 0071-0072, and Clarke Paragraph 0049);

As per claim 9, Aziz teaches the limitations:

"determining, for each of the plurality of nodes, whether the grid establishment component has sufficient privileged access to the operating system running on that node to deploy the grid facilitation agent to that operating system" (Paragraphs 0061-0062 and Paragraphs 0071-0072); and

"in response to a determination that the grid establishment component has sufficient privileged access to that operating system, selecting that node as one of the grid nodes" (Paragraphs 0061-0062 and Paragraphs 0071-0072).

As per claim 10, Aziz teaches the limitation:

"wherein determining comprises: receiving a set of information from an administrator that specifies the set of grid nodes" (Paragraphs 0052-0053, i.e., *control plane* and *supervisory purposes*).

As per claim 11, Aziz teaches the limitation:

"wherein establishing the resource grid is implemented by the grid establishment component without user intervention"(Paragraph 0055).

As per claim 12, Aziz teaches the limitation:

"wherein establishing one or more grid masters comprises: establishing the grid establishment component as a grid master" (Paragraphs 0051-0055, i.e., *control plane* and Paragraph 0075, i.e., *web load balancer*).

As per claim 13, Aziz teaches the limitation:

"wherein establishing one or more grid masters comprises: establishing at least one of the grid nodes as a grid master "(Paragraphs 0051-0055, i.e., *control plane* and Paragraph 0075, i.e., *web load balance*)".

Claims 14 and 27 are rejected on the same basis as claim 1.

Claims 16 and 29 are rejected on the same basis as claim 3.

Claims 17 and 30 are rejected on the same basis as claim 4.

Claims 18 and 31 are rejected on the same basis as claim 5.

Claims 19 and 32 are rejected on the same basis as claim 6.

Claims 20 and 33 are rejected on the same basis as claim 7.

Claims 21 and 34 are rejected on the same basis as claim 8.

Claims 22 and 35 are rejected on the same basis as claim 9.

Claims 23 and 36 are rejected on the same basis as claim 10.

Art Unit: 2162

Claims 24 and 37 are rejected on the same basis as claim 11.

Claims 25 and 38 are rejected on the same basis as claim 12.

Claims 27 and 39 are rejected on the same basis as claim 13.

Conclusion

7. Applicant's arguments with respect to claim 1-37, 40-62, and 81-96 have been considered but are moot in view of the new ground(s) of rejection.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-5629.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint

AU-2162

Camy Thung
Camy Thung
primary Examiner